



PATENTS  
2543-28-93

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

#13/1,29/00  
11/29/00

In re application of : )  
Duvall *et al* )  
Serial No. 09/098,758 )  
Filed: June 17, 1998 )  
For: Synergistic Blend of a Metal-Based )  
Stabilizer or Lewis Acid and a Free Mercaptan )  
for Enhanced PVC Stabilization )

Group Art Unit: 1713

Examiner: P. Mulcahy

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*Robert M. Didrick*  
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Assistant Commissioner for Patents  
Washington, D.C. 20231

AMENDMENT

Dear Sir:

This application has been reconsidered carefully in the light of the Office Action mailed August 31, 2000. A careful reconsideration of the application in the light of the following remarks is requested respectfully.

The rejection of claims 1-3 and 6-9 under 35 USC 103(a) as being obvious over the teachings of Bae *et al* on the ground that Bae *et al* teaches the incorporation of zinc chloride and a latent mercaptan in a halogen-containing polymer composition is traversed. The teaching at columns 7 and 8 of Bae *et al* to which the Examiner has referred describes the formation of a trithiophosphite by the reaction of phosphorus trihalide with a mercapto acid ester in which the mercapto group is bonded to the phosphorus atom. The resulting trithiophosphite is neither a free mercaptan nor a latent mercaptan. A latent mercaptan, as defined in the instant application is one which degrades during processing of a halogen-containing polymer composition at an

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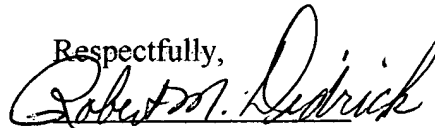
elevated temperature to liberate a free mercaptan. The latent mercaptan must be stabilized in some way in order to provide the properties necessary to function as a stabilizer in the claimed composition. There is no suggestion in Bae *et al* that the trithiophosphite would act in such a way. To the contrary, Bae *et al* teaches at column 5, lines 25-28, that zinc chloride forms stable complexes with the trithiophosphite and that it is these complexes that are the effective stabilizers for polyvinyl chloride resins. It teaches that its invention is a way to avoid the catalysis of the degradation of polyvinyl chloride by zinc chloride.

The instantly claimed invention excludes the zinc chloride/organic trithiophosphite complexes which, according to Bae *et al*, avoid the zinc chloride catalysis of the thermodegradation of polyvinyl chloride. It is respectfully submitted that the zinc chloride/organic trithiophosphite complexes of Bae *et al* would materially change the basic and novel characteristics of the instantly claimed invention.

The mercaptans named throughout the applicants' disclosure may or may not correspond to some of the mercaptans shown in the disclosure of Bae *et al* and may or may not be capable of reacting with a phosphorus trihalide but that has no relevance to the question of whether Bae's teaching of the product of that reaction is suggestive of a combination of zinc chloride and a mercaptan that has not been tied up as a trithiophosphite.

For all of the foregoing reasons, a withdrawal of the rejection is courteously solicited.

Respectfully,



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